SWITCH POINT INSPECTION GAUGES: INSTRUCTIONS FOR USE

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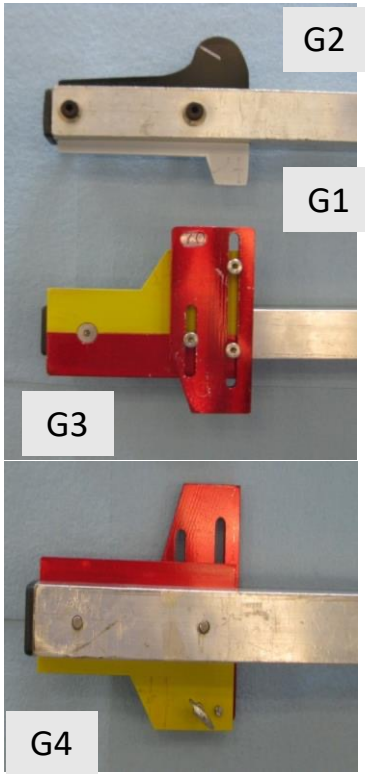
Brad Kerchof
Advanced Rail Management
Norfolk Southern Railway (retired)

SWITCH POINT GAUGES

- **G1** - Chipped point
- **G2** - AAR 1B wheel contact
- **G3** - Severely worn wheel profile
- **G4** - Gage-face wear angle

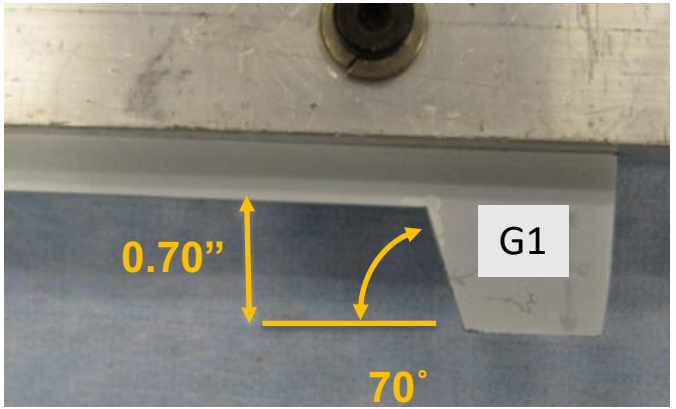


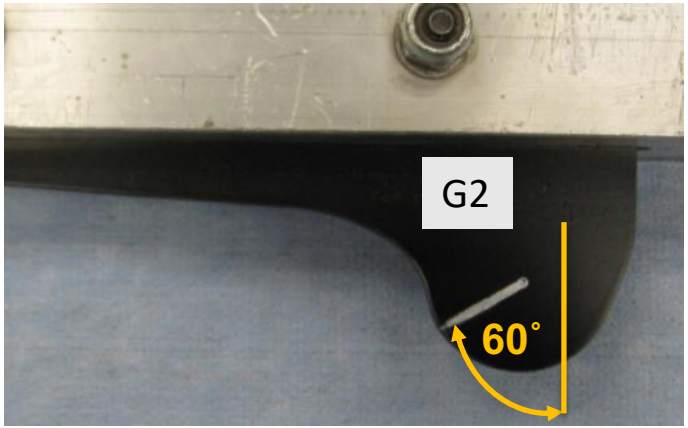
HISTORY OF GAUGE DEVELOPMENT

- 2012: TRB Rail Safety IDEA Committee approved a proposal submitted by Alan Zarembski, U of DE, to develop a switch point gauge.
- 2013 – 2017: Dr. Zarembski and an advisory panel of experienced track people developed a set of gauges.
- Prototypes were fabricated by NS.
- Field testing and feedback provided by BNSF, CN, CP, LIRR, NS, TTCI & Gary Wolf.
- 2018: After final modifications, three dozen gauges were shipped to field test participants.

GAUGE DESCRIPTION

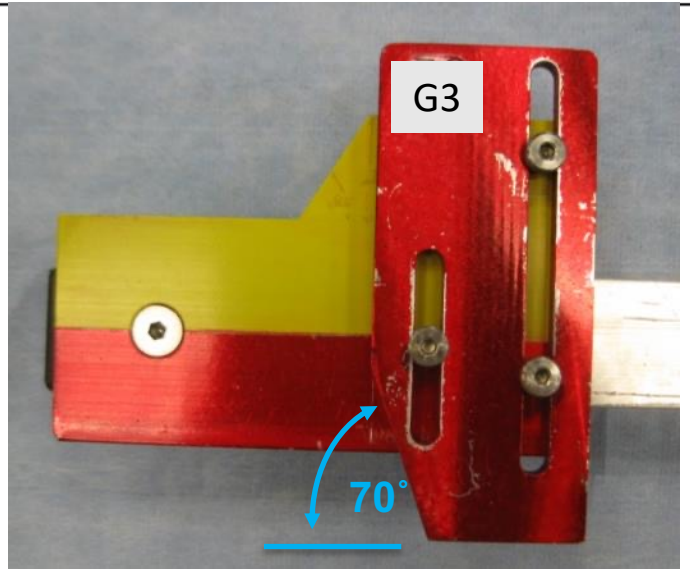
- **G1,** the chipped point gauge, was modeled after a European gauge
- **G2,** the AAR 1B wheel contact gauge duplicates a new AAR 1B profile; it was also modeled after a European gauge (which used a standard UK wheel profile).

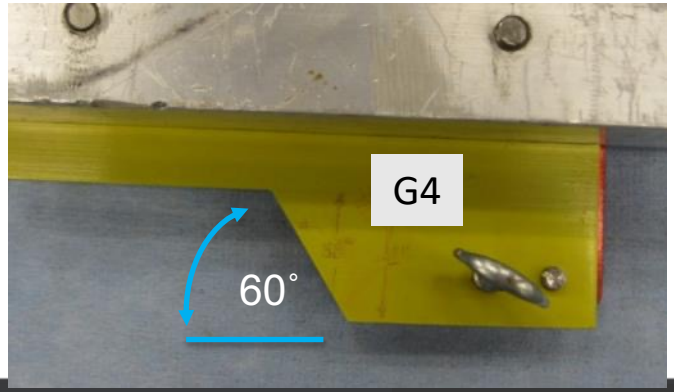




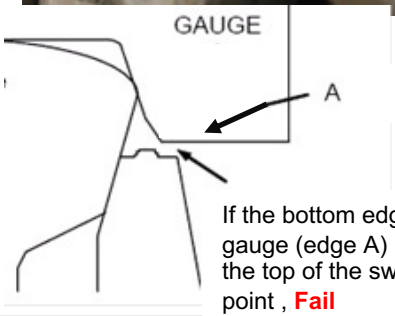
GAUGE DESCRIPTION

- **G3,** the severely worn wheel profile gauge, is designed to reflect how a worn flange matches up against a worn or gapped point.
- **G4,** the gage-face wear angle gauge, was modeled after a European gauge.





G1 - CHIPPED POINT GAUGE

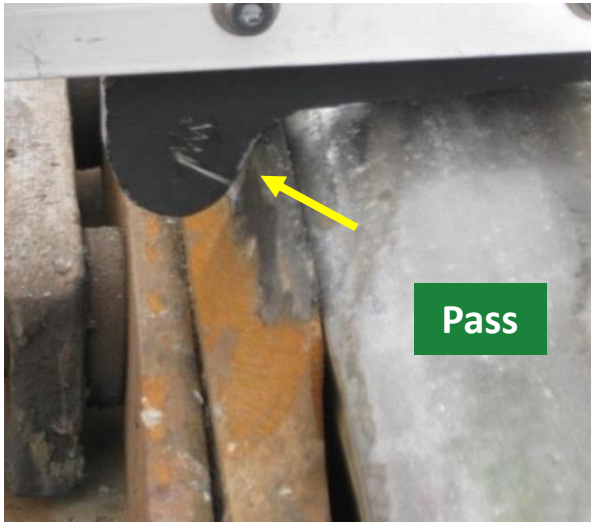


If the bottom edge of gauge (edge A) is over the top of the switch point , **Fail**

Apply this gauge where the point is worn or broken (typically within 24 inches of the tip, but could be anywhere).

- If the bottom edge slides over the top of a broken or worn point, **Fail**

G2 - AAR 1B WHEEL CONTACT GAUGE



Apply this gauge where the point is worn or broken (typically within 24 inches of the tip, but could be anywhere).

If contact with the switch point is…

- above the 60˚ mark, **Pass**
- below the 60˚ mark, **Fail**

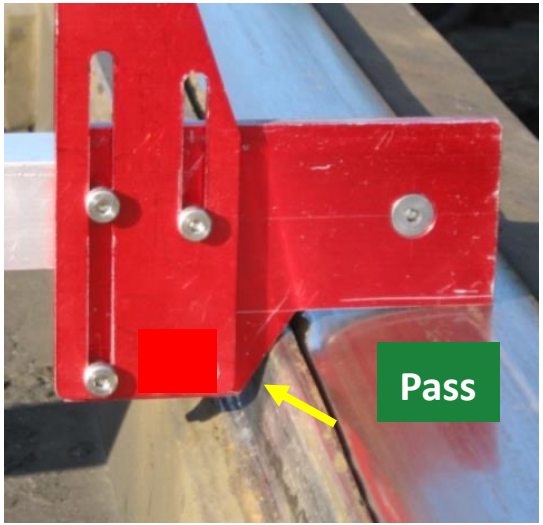
G3 - SEVERELY WORN WHEEL PROFILE GAUGE

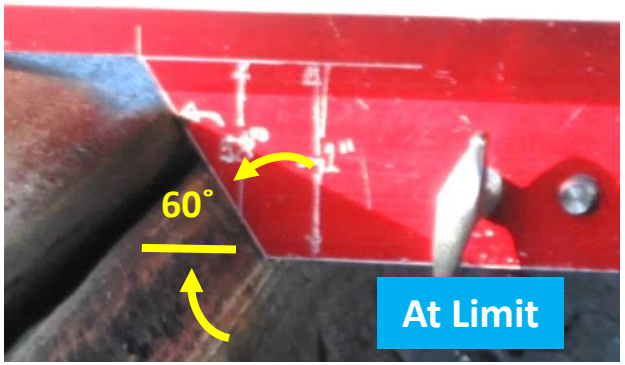
Apply this gauge within the first inch of the tip of the point, or where wheel flange contact is first evident.

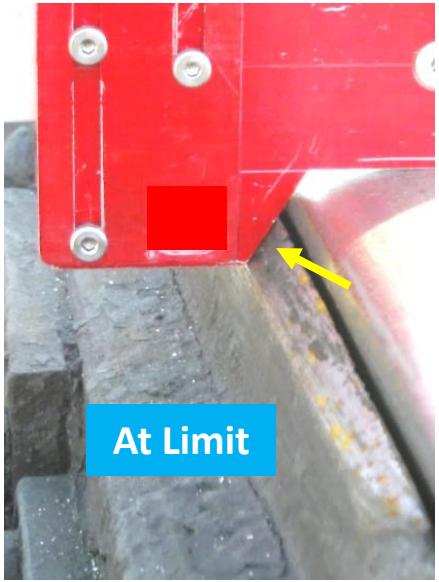
- If the slider slides down the gage face of the switch point, **Pass**
- If the corner of the slider lands on top of the switch point, **Fail**

This gauge can be used to identify gapping points, broken points and points that are exposed due to a worn stock rail.

G4 - GAGE-FACE WEAR ANGLE GAUGE







Apply this gauge anywhere along the point where gage-face wear is evident.

If the switch point gage-face angle is…

- greater than 60˚, **Pass**
- less than 60˚, **Fail**

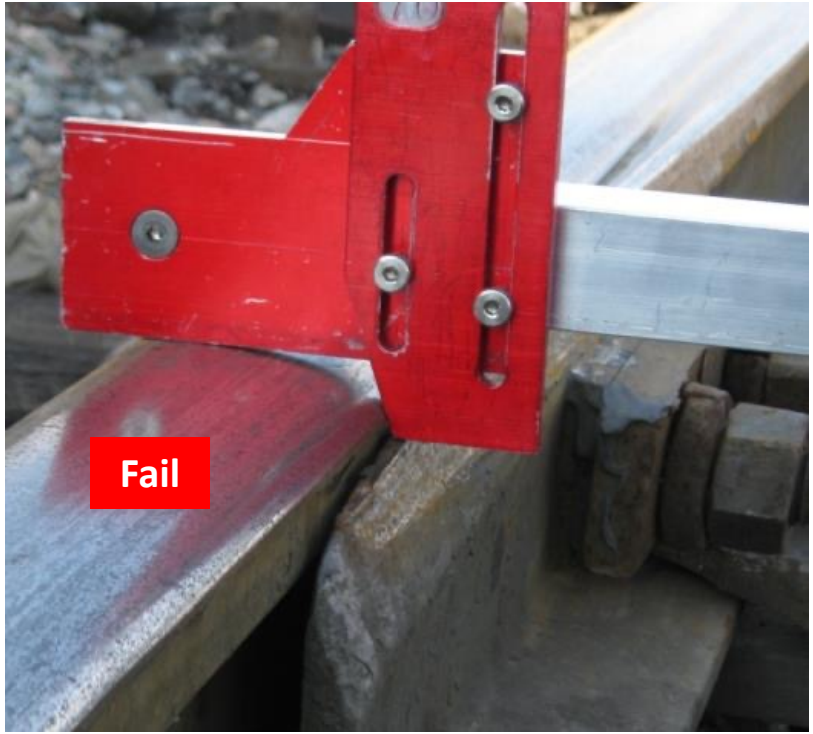
This gauge protects against a low gage face angle, which is more likely to contribute to wheel climb.

USER ADVICE

- This 4-in-1 gauge is a very useful tool: If all gauges show **Pass**, the switch point will not contribute to a wheel-climb derailment.
- After a track inspector has used these gauges on a number of worn & broken points, they will be able to judge point condition without applying the gauge.

GAUGE PROCUREMENT

- This gauge is not available as a stock item from a supplier (no one has expressed an interest in producing it).
- I do have drawings that will allow a machine shop to fabricate the gauge.



QUESTIONS?